

# DSP Noise Cancellation for the Icom Range of Commercial Radios



**Description:**

The revolutionary **NNTDSP.001** noise eliminating DSP board will allow clear verbal radio communication from a user where there is high ambient noise, without the use of a full fleet of headsets, complicated programming or soldering.

The **NNTDSP.001** DSP board is ideal for a variety of environments including construction sites, motorsport, airports, noisy factories and dockyards, in fact anywhere there is high background noise. For example, on construction sites, loud noises are generated from various pieces of machinery such as site generators and pneumatic drills. The worker in this environment, using an Icom radio, transmits audio which has all the construction noises superimposed on it. On each of the receiving radios that have the DSP module fitted, the unwanted noise is removed and the user can hear clearly what is being said.

The **NNTDSP.001** DSP board operates on most Icom commercial radios that have an accessory socket (except IC-F12/22 Series, IC-F51/61series and IC-F22SR).

This new device uses an innovative process of noise reduction that operates in the frequency domain. The pass-band of the digital signal processing (DSP) technology is subdivided into sub-bands. The system then works out whether the signal has speech or noise characteristics in the sub-band. If the signal has noise characteristics, the noise portion is removed from this sub-band, depending on the filter level used. If no noise is present the speech remains unchanged. The system is fully adaptive and adjusts itself continuously to changing environmental conditions. When the signal is first received the DSP automatically adjusts to the characteristics of the voice signal and noise within 1 second and then continuously removes the unwanted noise for the rest of the transmission. The module is installed in the "Option" socket and a small modification is required in the radio to enable the module to work.

This modification cuts the audio path of the loudspeaker and allows the insertion of the DSP board. The programming software is set up to "enable OPT 1" on one of the assignable buttons such as P0 to P3 on the mobiles or if used with a handportable there are also the buttons above and below the PTT. Noise level is set at 6; this is adjustable by links on the module.

**Features:**

- 8 preselectable noise cancellation levels
- Fully adaptive noise cancellation 9–35dB
- low current consumption
- Easy to install
- Competitively priced

Order code: **NNTDSP.001**

**Compatible Models:**

- IC-F3 & IC-F3S Handheld Series (2nd series)
- IC-F3/F4GS/GT Handheld Series
- IC-F31/41GS/GT Handheld Series
- IC-F110/S Mobile Series
- IC-F310/S Mobile Series
- IC-F510 Mobile Series
- IC-F1610 Mobile Series
- IC-FR3100 Repeater Series
- IC-F14/S IC-F24/S
- IC-F15/S IC-F25/S